

Application No.: 10/089,998
Amendment Dated: February 9, 2005
Reply to Office Action of: November 8, 2004

MTS-3326US

Remarks/Arguments:

Claim 14 has been amended. Claims 1-13 have been withdrawn, as being drawn toward non-elected species. Claim 23 is newly added. Therefore, claims 14-23 are pending. No new material is introduced herein.

Claim Rejections under §103

Claims 14-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Komma et al. (U.S. Patent No. 5,815,293) in view of Yoo et al. (JP 10-283668A). It is respectfully submitted that claims 14-22, as amended, are patentable over Komma et al. in view of Yoo et al. for the reasons set forth below.

Amended claim 14 recites features which are neither disclosed nor suggested by the cited references, namely:

...a convex lens for allowing luminous flux from a first light source ...
luminous flux from a second light source having wavelength different
from the first light source ...comprising:

...a central area close to the center axis ...

...a peripheral area far from said central axis ...

...an intermediate area located midway between said central area and
said peripheral area ...

...the luminous flux converging ... from said first light source is the
luminous flux that has passed through said central area, said
intermediate area and said peripheral area...

... the luminous flux converging ... from said second light source is the
luminous flux that has passed through said intermediate area and said
central area...

...said central area provides only a refraction effect ...

...said intermediate area is provided with a diffraction grating ...
(Emphasis Added)

These features are supported in Figures 15a, 15b, 18a, 18b, 21a, and 21b.

Komma et al. disclose a holographic lens 26 in figures 4a, 4b, 5, 6, 9a, 9b, 19a, 19b, and 20, which includes a pattern region 26A and a no pattern region 26B (column 26, lines 42-48). A light portion L5 of a single incident light L3 is diffracted by pattern region 26A and another light portion L4 passes through both pattern region 26A and no pattern region 26B without being diffracted. Light portions L4 and L5 are then focused to different points by objective lens 27 (Figures 4a and 4b, and column 26, lines 7-19).

Komma et al. do not disclose or suggest that the central area of holographic lens 26 is a refractive lens. Komma et al. do not distinguish the central area of the patterned region 26A from the rest of the holographic pattern. In Figures 5, 6, and 7, Komma et al. describe the entire region of 26A having a grating pattern to create dual focus lengths (Col. 26, line 42 through Col. 27, line 62). Therefore, Komma et al. do not teach or suggest Applicants' feature of "said central area provides only a refraction effect."

Yoo et al. disclose a holographic lens including an optical pickup which includes two light sources for reading and writing to both CD's and DVD's. Yoo et al. discloses a holographic lens with a region A, a region B and a diffraction grating between regions A and B, see abstract, Figure 4a and 4b. Region A is close to a central axis. Yoo et al. disclose in paragraph [0012] that region A mostly does not affect no spherical aberration, paragraph [0012]. Yoo et al. do not disclose or suggest Applicants' feature of "said central area provides only a refraction effect." This feature is not disclosed in Yoo et al.

In addition, Yoo et al. do not disclose that a) luminous flux "from said first light source is the luminous flux that has passed through said central area, said intermediate area and said peripheral area" and b) luminous flux "from said second

light source is the luminous flux that has passed through said intermediate area and said central area..." (emphasis added) where the intermediate area is a diffraction grating, as said forth in Applicants' claim 14. Thus, in Applicants' invention, for both light sources, light is diffracted through the intermediate area. In Yoo et al., light from the first source is transmitted with transparency, while light from the second source is diffracted, paragraph [0015].

Komma et al. is described above. Yoo et al. do not disclose or suggest the above described features of Applicants' claimed invention. Thus, Yoo et al. do not rectify the deficiencies of Komma et al. described above.

Therefore, for the reasons set forth above, claim 14 is not subject to rejection as being unpatentable over Komma et al. in view of Yoo et al. As claims 15-22 are dependent on claim 14, these claims are not subject to rejection as well.

Newly Added Claim

Claim 23 has been added. This claim does not add new matter. New independent claim 23 is similar to claim 14 (prior to the amendment) and claim 15 and includes the features of:

- a convex lens for allowing luminous flux from a first light source to converge to a first optical information recording medium having a predetermined thickness and allowing luminous flux from a second light source having a wavelength different from the first light source to converge to a second optical information recording medium which is thicker than the first optical information recording medium
- the lens comprising a central area, a peripheral area and an intermediate area

- luminous flux converging onto the information recording surface of the first optical information recording medium from the first light source is the luminous flux that has passed through the central area, the intermediate area and the peripheral area
- luminous flux converging onto the information recording surface of the second optical information recording medium from the second light source is the luminous flux that has passed through the intermediate area and the central area
- the intermediate area provided with a diffraction grating
- the diffraction grating of the intermediate area, using diffracted light of the same order, forms luminous flux from the first light source into a reduced wavefront aberration with respect to the first optical information recording medium and forms luminous flux from the second light source into a reduced wavefront aberration with respect to the second optical information recording medium

Claim 23 contains features not found in the cited art.

Komma et al. discloses that a portion of the incident light, L3, is transmitted through holographic lens 26 and formed into zero-th order diffracted light L4. A second portion of the incident light, L3, is transmitted through holographic lens 26 and formed into first-order diffracted light L5. (Col. 26, lines 7-19).

Yoo et al. discloses a first light source transmitted through holographic lens 35 with transparency, thus zero-th order diffraction, and a second light source transmitted through holographic lens 35 with diffraction, thus first-order diffraction, paragraph [0015].

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Neither Komma et al. nor Yoo et al disclose or suggest the feature of a convex lens with "diffraction grating of the intermediate area, using diffracted light of the same order, forms luminous flux from the first light source ... forms luminous flux from the second light source..." (emphasis added) as set forth in Applicants' claim 23.


Accordingly, for the reasons set forth above, claim 23 is patentable over the cited art.

Conclusion

In view of the foregoing amendments and remarks, Applicants request that the Examiner reconsider and withdraw the rejections of claims 14-22. Newly added claim 23 is not subject to rejection in view of the cited art.

Claims 14-23 are in condition for allowance. Accordingly, reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,



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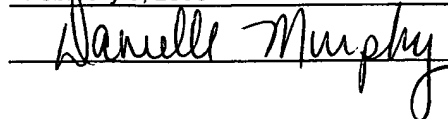
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